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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,725	12/18/2001	William A. Ahroon	920070.403	1841

27370 7590 07/26/2005

OFFICE OF THE STAFF JUDGE ADVOCATE
U.S. ARMY MEDICAL RESEARCH AND MATERIEL COMMAND
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EXAMINER

VO, HUYEN X

ART UNIT

PAPER NUMBER

2655

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/025,725

Applicant(s)

AHROON, WILLIAM A.

Examiner

Huyen X. Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-27 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 18 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant has submitted an amendment filed 2/24/2005 arguing to traverse the art rejection based on an argument regarding *"there is no disclosure within Katayanagi et al. that teaches or even suggest, "calibrating" spoken words such that the words have "substantially the same sound energy" (see remarks section, 2nd paragraph page 10).*

Applicant's argument has been fully considered but it is not persuasive. Examiner interprets the step of calibrating a signal as the step of scaling an input signal into a different level, which is taught by the prior art of record. The rms value of the input signal is compared with a predetermined constant. Based on the result of the comparison, a scale factor is derived and applied to the input signal to scale the level of the input signal (*see claim rejection*). Therefore, previous ground of rejection of claims 1-2 and 12-13 are maintained.

2. Applicant also argues that Ertem et al. fail to disclose the step of bring the input signal to "nominal level" within a defined tolerance. However, Ertem et al. teach the step of bring the level of the input signal to the "nominal level" by multiplying with input signal with a scale factor (*col. 6, ln. 11-36 "bring the signal to the nominal level"*).

Applicant's argument is not convincing. Previous ground of rejection is maintained.

3. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that

any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

4. In response to applicant's argument that both Katayanagi et al. and Ertem et al. are nonanalogous arts, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both prior art references are relied upon for the teaching of scaling the level of an input signal to a nominal level, which is the same as calibrating a signal to a certain nominal level.

5. Applicant is advised to include all the limitations suggested by examiner during a telephone interview with the applicant's representative in order to place the application in condition for allowance.

Claim Rejections - 35 USC § 112

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6. The term "substantially" in claim 25 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Examiner neglects the term "substantially" in the interpretation of the claim language. Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-2 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Katayanagi et al. (US Patent No. 5687285).

9. Regarding claims 1 and 12, Katayanagi et al. disclose a method and system comprising: accepting voice input defining at least one spoken word (*element 11 in figure 1*); and calibrating the at least one spoken word in response to at least one defined speech-energy criterion (*col. 4, ln. 1-40*).

10. Regarding claims 2 and 13, Katayanagi et al. further disclose a method and system of claims 1 and 12, wherein said calibrating the at least one word in response to

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at least one defined speech-energy criterion comprises: calibrating the at least one spoken word in response to a defined root-mean-squared and/or peak-to-peak target value (*col. 4, ln. 1-40, threshold nr1 is considered the RMS target value*).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katayanagi et al. (US Patent No. 5687285).

13. Regarding claims 7 and 18, Katayanagi et al. a method and system of claims 1 and 12, wherein said calibrating the at least one spoken word in response to at least one defined speech-energy criterion comprises: calibrating the at least one spoken word in response to a defined target value (*col. 4, ln. 1-40, threshold nr1 is considered the RMS target value*), but fail to disclose that the defined target value is the peak-to-peak target value. However, it would have been obvious to one of ordinary skill in the art at the time of invention that the peak-to-peak value is an alternative scale of representing the signal's level. Either using the peak-to-peak value or the RMS value in the measurement or calculation will not alter the signal's level.

14. Claims 3-6, 8-11, 14-17, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katayanagi et al. (US Patent No. 5687285) and further in view of Ertem et al. (US Patent No. 6453289).

15. Regarding claims 3 and 14, Katayanagi et al. fail to disclose a method and claim of claims 2 and 13, wherein said calibrating the at least one word in response to a defined root-mean-squared target value comprises: multiplying a discrete representation of the at least one word by a scaling factor such that a resultant root-mean-squared value of the multiplied discrete representation of the at least one word is within a defined tolerance of the defined root-mean-squared target value.

However, Ertem et al. teach the step of multiplying a discrete representation of the at least one word by a scaling factor such that a resultant root-mean-squared value of the multiplied discrete representation of the at least one word is within a defined tolerance of the defined root-mean-squared target value (*col. 6, ln. 11-36, bringing the input signal to the nominal level by multiplying the input signal with the scaling factor*).

Since Katayanagi et al. and Ertem et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Katayanagi et al. by incorporating the teaching of Ertem et al. in order to minimize noise estimation error to optimize the performance of the voice activity detector (VAD).

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16. Regarding claims 4 and 15, Katayanagi et al. further disclose a method and system of claims 3 and 14, wherein said multiplying a discrete representation of the at least one word by a scaling factor such that a resultant root-mean-squared value of the multiplied discrete representation of the at least one word is within a defined tolerance of the defined root-mean-squared target value comprises: calculating a scaling factor (*equation 2 in col. 4*).

17. Regarding claims 5 and 16, Katayanagi et al. further disclose a method and system of claims 4 and 15, wherein said calculating a scaling factor comprises: calculating a root-mean-squared value of the discrete representation of the at least one word (*equation 1 in col. 4*); and calculating the scaling factor by dividing the calculated root-mean-square target value of the discrete representation of the at least one word by the defined root-mean-squared value (*equation 2 in col. 4*).

18. Regarding claims 6 and 17, Katayanagi et al. further disclose a method and system of claims 4 and 15, wherein said calculating a scaling factor comprises: calculating a root-mean-squared value of the discrete representation of the at least one word (*Equation 1 in col. 4*). Katayanagi et al. fail to disclose the step of calculating the scaling factor to be a number less than one if the calculated root-mean-squared value is greater than a defined upper-end tolerance about the target value and to be a number greater than one if the calculated root-mean-squared value is less than a defined lower-end tolerance about the target value.

However, Ertem et al. further teach the step of calculating the scaling factor to be a number less than one if the calculated root-mean-squared value is greater than a defined upper-end tolerance about the target value and to be a number greater than one if the calculated root-mean-squared value is less than a defined lower-end tolerance about the target value (*col. 6, ln. 11-36, bringing the signal the nominal level*).

Since Katayanagi et al. and Ertem et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Katayanagi et al. by incorporating the teaching of Ertem et al. in order to minimize noise estimation error to optimize the performance of the voice activity detector (VAD).

19. Claims 8-11 and 19-22 are rejected for reason stated in claims 3-6 and 17-17, respectively, because they contain the same subject matter claimed 3-6 and 14-17, respectively. The only difference between two sets of claims is that claims 3-6 and 14-17 involves with the RMS value while claims 8-11 and 19-22 involves with the peak-to-peak value. However, it would have been obvious to one of ordinary skill in the art at the time of invention that the peak-to-peak value is an alternative scale of representing the signal's level. Either using the peak-to-peak value or the RMS value in the measurement or calculation will not alter the signal's level.

20. Claims 23-27 contain the same subject matters as claimed in claims 1-22 (see claim rejections of claims 1-22).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen Vo whose telephone number is 703-305-8665. The examiner can normally be reached on M-F, 9-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ^{W. Young} ~~Ben To~~ can be reached on ⁵⁷¹⁻²⁷²⁻⁷⁵⁸² ~~703-305-4827~~. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HXV

7/25/2005



W. R. YOUNG
PRIMARY EXAMINER